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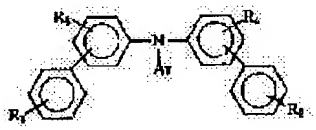
(54) ELECTROPHOTOGRAPHIC PHOTORECEPTOR

(57)Abstract:
PROBLEM TO BE SOLVED: To provide an electrophotographic photoreceptor high in sensitivity and small in occurrences of deterioration of potential acceptance and deterioration of sensitivity and freed of deterioration of a photosensitive layer film and occurrence of image defects in a recorded image and occurrence of stains on a background and superior in stability against rgg uses by incorporating 2 kinds of specified compounds in a photosensitive layer formed on a conductive substrate.
SOLUTION: The photoreceptor is provided on the conductive substrate with the photosensitive layer containing the compound represented by formula I and the compound represented by formula II or the like, and in formulae I and II, each of R1 and R2 is an H atom or an amino or diaminoalkyl group or the like; each of R3 and R4 is an H atom or an alkoxy or alkyl group or the like; Ar is a monocyclic aromatic hydrocarbon or a noncondensed polycyclic aromatic hydrocarbon or heterocyclic group; A is a 9-anthryl or N-substituted carbazolyl or N-substituted phenothiazinyl group or the like; R is an H atom or an alkyl or aralkyl group or the like; (m) is an integer of 2-8: and (n) is 0 or I.



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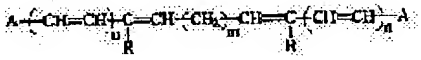

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Drawings are not displayable due to the volume of the data (more than 200 drawings).

* NOTICES *

CLAIMS

[Claim(s)]
[Claim 1] An electrophotography photo conductor characterized by coming to prepare a sensitization layer containing a kind of a compound shown by compound shown by the following general formula (1) at least, the following general formula (2), or (24) on a conductive base material.
[Formula 1]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / the dialkylamino radical which is not replaced / a hydrogen atom, the amino group, substitute, or /, an alkoxy group, a thio alkoxy group, an aryloxy group, substitute, or /, a halogen atom, substitute, or], and R3 and R4 express the alkyl group or halogen atom which is not replaced [a hydrogen atom, an alkoxy group, substitute, or].) Ar expresses the heterocycle radical which is not replaced [the non-condensing polycyclic-aromatic-hydrocarbon radical which is not replaced / the monocyclic aromatic compound hydrocarbon group which is not replaced / substitute or /, substitute, or /, substitute, or].
[Formula 2]
The inside of [type and A are N-substitute carbazolyl radical which is not replaced [9-anthryl radical, substitute, or], an N-substituted phenothiazinyl group, or the following general formula (a).
[Formula 3]
(-- however, Ar expresses the arylene radical which is not replaced [substitute or], and R1 and R2 express the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / substitute or /, substitute, or /, substitute, or].) -- expressing, R expresses the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or /, substitute, or]. m expresses the integer of 2-8 and n expresses the integer of 0 or 1.]
[Formula 4]
(Ar expresses among a formula the biphenylene radical which is not replaced [substitute or], R1, R2, and R3 express the alkyl group and alkoxy group which may have a hydrogen atom, a halogen atom, a cyano group, or a substituent, an aryloxy group, an alkyl sulfhydryl group, a methylene dioxy radical, the methylene dithio, and an aryl group, and even if R1, R2, and R3 are the same respectively, they may differ.) l, m, and n express the integer of 1-5, and when each is the integer of 2-5, even if R1, R2, and R3 are the same, they may differ.
[Formula 5]
(Among the formula, A1 and A2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or / substitute, or], and even if respectively the same, they may differ.) Ar expresses the condensation polynuclear hydrocarbon radical which is not replaced [substitute or].
[Formula 6]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and n expresses the integer of 1 or 2.) R3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or], and R4 and R5 express the alkyl group which is not replaced [a hydrogen atom, the amino group, an alkoxy group, a thio alkoxy group, an aryloxy group, substitute, or] and a halogen atom. m expresses the integer of 1, 2, and 3 and l expresses the integer of 1, 2, 3, and 4. When l and m are two or more integers, even if R4 and R5 are the same, they may differ.
[Formula 7]
(R1 expresses among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and R2, R3, and R4 express the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, the amino group, an alkoxy group, a thio alkoxy group, an aryloxy group, a methylene dioxy radical, substitute, or /, a halogen atom, substitute, or].) h expresses the integer of 1, 2, 3, and 4, and k and l express the integer of 1, 2, 3, 4, and 5. When h, k, and l are two or more integers, even if R2, R3, and R4 are the same, they may differ. n expresses the integer of 1, 2, 3, and 4, and m expresses the integer of 4-n. When m is two or more, R1 may be the same or may differ.
[Formula 8]
(Among the formula, R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or / substitute, or], and even if respectively the same, they may differ.) However, 1 and 6-diamino pyrene compound is removed.

[Formula 9]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].)
[Formula 10]
(R1 and R2 express among a formula the alkyl group which is not replaced [a hydrogen atom, a halogen atom, a nitro group, a cyano group, substitute, or], R3 and R4 express the alkyl group which is not replaced [a hydrogen atom, a cyano group, an alkoxy carbonyl group, substitute, or], and R5 expresses a hydrogen atom, a low-grade alkyl group, or an alkoxy group.) W expresses the alkyl group which is not replaced [a hydrogen atom, substitute, or]. In the integer of 1-4, and l, the integer of 0-2 and m express the integer of 1 or 2, and n expresses [j / the integer of 1-5, and k] the integer of 1-3.
[Formula 11]
the inside of [type, and R1 -- a hydrogen atom, a halogen atom, a cyano group, and a low-grade alkyl group -- expressing -- Ar -- the following general formula (b) -- or (c) --
[Formula 12]
(-- however, R2, R3, and R6 express the benzyl which is not replaced [the low-grade alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or], and R4 and R5 express a hydrogen atom, a halogen atom, a low-grade alkyl group, a lower alkoxy group, or a JI low-grade alkylamino radical.) -- it expresses.]
[Formula 13]
(R1 expresses a hydrogen atom, low-grade alkyl group, and chloro ethyl group or a hydroxyethyl radical among a formula, R2 expresses a hydrogen atom or a halogen atom, and R3 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 14]
(R1 expresses a low-grade alkyl group among a formula, and R2 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 15]
(Among a formula, even if R1 and R2 are the same, they may differ from each other, and they express the aralkyl radical which is not replaced [a hydrogen atom, low-grade alkyl group and hydroxy low-grade alkyl group, a Krol low-grade alkyl group the acyl group of the carbon numbers 1-2 of alkyl, the cycloalkyl radical of the carbon numbers 5-6 of alkyl, substitute, or].)
[Formula 16]
A-CH2CH2-Ar1-CH2CH2-A (14)
Ar1 expresses among [type the heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and A is N-substitute carbazolyl radical or the following general formula (d) which is not replaced [substitute or].
[Formula 17]
(-- however, Ar2 is a heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- it expresses.]
[Formula 18]
(R1 expresses a hydrogen atom, an alkyl group, an alkoxy group, an aryloxy group, a dialkylamino radical, the diaryl amino group, or a halogen atom among a formula, R2 and R3 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute or], and Ar expresses an aromatic hydrocarbon radical or a heterocycle radical.) n expresses the integer of 1 or 2.
[Formula 19]
The inside of [type and A are N-substitute carbazolyl radical or the following general formula (e).
[Formula 20]
(-- however, Ar is an aromatic hydrocarbon radical or a heterocycle radical, and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- expressing, R expresses an alkyl group, an alkoxy group, or a halogen atom. n expresses the integer of 0-4, and when n is two or more, even if R is the same, it may differ.]
[Formula 21]
The inside of [type and A are N-substitute carbazolyl radical which is not replaced [9-anthryl radical, substitute, or], an N-substituted phenothiazinyl group, or the following general formula (f).
[Formula 22]
(-- however, Ar expresses the arylene radical which is not replaced [substitute or], and R1 and R2 express the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / substitute or /, substitute, or /, substitute, or].) -- expressing, R expresses the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or /, substitute, or]. n expresses the integer of 0-8.]
[Formula 23]
(R1, R2, R3, R4, and R5 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom among a formula, and even if these are the same, they may differ.)

[Formula 24]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and at least one of R1 and R2 expresses the aryl group which is not replaced [substitute or].)
[Formula 25]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and even if R1 and R2 are the same, they may differ.) R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. m expresses the integer of 1, 2, and 3 and n expresses the integer of 1, 2, 3, and 4. When m or n is two or more, even if R3 and R4 are the same, they may differ.
[Formula 26]
(m expresses the integer of 0 or 1 among a formula, and when m is 1, X expresses an oxygen atom, a sulfur atom, -CH2-, -CH2CH2-, -CH=CH-, or -N(R)- (however, R expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].).) R1 and R2 express an alkyl group, an aralkyl radical, a ring type aromatic series radical, or a heterocycle radical, and R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. Ar expresses a ring type aromatic series radical or a heterocycle radical. n expresses the integer of 0 or 1. R3 may form the benzene ring with X.
[Formula 27]
(Ar expresses a phenylene group or a biphenylene radical among a formula, and R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) n expresses the integer of 1-4.
[Formula 28]
(A1 expresses among a formula the aromatic hydrocarbon radical which is not replaced [substitute or], A2 expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and A3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or].) n expresses the integer of m and1, or 2, and m+n is 3. However, when n is m or2, even if A1, A3, or A2 is the same, it may differ.
[Formula 29]
(R expresses a low-grade alkyl group or benzyl among a formula, and X expresses the amino group replaced by a hydrogen atom, a low-grade alkyl group, a lower alkoxy group, a halogen atom, the nitro group, the amino group, the low-grade alkyl group, or benzyl.) n expresses the integer of 1 or 2.
[Claim 2] An electrophotography photo conductor according to claim 1 characterized by containing one sort of a compound in which a sensitization layer becomes from a charge generating layer which uses a charge transportation layer and a charge generating material as a principal component at least, and this charge transportation layer is shown by compound shown by general formula (1) at least, general formula (2), or (24).
[Claim 3] An electrophotography photo conductor according to claim 1 characterized by consisting of a monolayer sensitization layer containing one sort of a compound in which a sensitization layer is shown by compound shown by charge generating material and general formula (1) at least, general formula (2), or (24).
[Claim 4] An electrophotography photo conductor characterized by coming to prepare a sensitization layer containing a kind of a compound shown by compound shown by the following general formula (2) at least, the following general formula (3), or (24) on a conductive base material.
[Formula 30]
The inside of [type and A are N-substitute carbazolyl radical which is not replaced [9-anthryl radical, substitute, or], an N-substituted phenothiazinyl group, or the following general formula (a).
[Formula 31]
(-- however, Ar expresses the arylene radical which is not replaced [substitute or], and R1 and R2 express the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / substitute or /, substitute, or /, substitute, or].) -- expressing, R expresses the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or /, substitute, or]. m expresses the integer of 2-8 and n expresses the integer of 0 or 1.]
[Formula 32]
(Ar expresses among a formula the biphenylene radical which is not replaced [substitute or], R1, R2, and R3 express the alkyl group and alkoxy group which may have a hydrogen atom, a halogen atom, a cyano group, or a substituent, an aryloxy group, an alkyl sulfhydryl group, a methylene dioxy radical, the methylene dithio, and an aryl group, and even if R1, R2, and R3 are the same respectively, they may differ.) l, m, and n express the integer of 1-5, and when each is the integer of 2-5, even if R1, R2, and R3 are the same, they may differ.
[Formula 33]
(Among the formula, A1 and A2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or / substitute, or], and even if respectively the same, they may differ.) Ar expresses the condensation polynuclear hydrocarbon radical which is not replaced [substitute or].
[Formula 34]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and n expresses the integer of 1 or 2.) R3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or], and R4 and R5 express the alkyl group which is not replaced [a hydrogen atom, the amino group, an alkoxy group, a thio alkoxy group, an aryloxy group, substitute, or] and a halogen atom. m

expresses the integer of 1, 2, and 3 and l expresses the integer of 1, 2, 3, and 4. When l and m are two or more integers, even if R4 and R5 are the same, they may differ.
[Formula 35]
(R1 expresses among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and R2, R3, and R4 express the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, the amino group, an alkoxy group, a thio alkoxy group, an aryloxy group, a methylene dioxy radical, substitute, or /, a halogen atom, substitute, or].) h expresses the integer of 1, 2, 3, and 4, and k and l express the integer of 1, 2, 3, 4, and 5. When h, k, and l are two or more integers, even if R2, R3, and R4 are the same, they may differ. n expresses the integer of 1, 2, 3, and 4, and m expresses the integer of 4-n. When m is two or more, R1 may be the same or may differ.
[Formula 36]
(Among the formula, R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or / substitute, or], and even if respectively the same, they may differ.) However, 1 and 6-diamino pyrene compound is removed.
[Formula 37]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].)
[Formula 38]
(R1 and R2 express among a formula the alkyl group which is not replaced [a hydrogen atom, a halogen atom, a nitro group, a cyano group, substitute, or], R3 and R4 express the alkyl group which is not replaced [a hydrogen atom, a cyano group, an alkoxy carbonyl group, substitute, or], and R5 expresses a hydrogen atom, a low-grade alkyl group, or an alkoxy group.) W expresses the alkyl group which is not replaced [a hydrogen atom, substitute, or]. In the integer of 1-4, and l, the integer of 0-2 and m express the integer of 1 or 2, and n expresses [j / the integer of 1-5, and k] the integer of 1-3.
[Formula 39]
the inside of [type, and R1 -- a hydrogen atom, a halogen atom, a cyano group, and a low-grade alkyl group -- expressing -- Ar -- the following general formula (b) -- or (c) --
[Formula 40]
(-- however, R2, R3, and R6 express the benzyl which is not replaced [the low-grade alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or], and R4 and R5 express a hydrogen atom, a halogen atom, a low-grade alkyl group, a lower alkoxy group, or a JI low-grade alkylamino radical.) -- it expresses.]
[Formula 41]
(R1 expresses a hydrogen atom, low-grade alkyl group, and chloro ethyl group or a hydroxyethyl radical among a formula, R2 expresses a hydrogen atom or a halogen atom, and R3 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 42]
(R1 expresses a low-grade alkyl group among a formula, and R2 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 43]
(Among a formula, even if R1 and R2 are the same, they may differ from each other, and they express the aralkyl radical which is not replaced [a hydrogen atom, low-grade alkyl group and hydroxy low-grade alkyl group, a Krol low-grade alkyl group the acyl group of the carbon numbers 1-2 of alkyl, the cycloalkyl radical of the carbon numbers 5-6 of alkyl, substitute, or].)
[Formula 44]
A-CH2CH2-Ar1-CH2CH2-A (14)
Ar1 expresses among [type the heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and A is N-substitute carbazolyl radical or the following general formula (d) which is not replaced [substitute or].
[Formula 45]
(-- however, Ar2 is a heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- it expresses.]
[Formula 46]
(R1 expresses a hydrogen atom, an alkyl group, an alkoxy group, an aryloxy group, a dialkylamino radical, the diaryl amino group, or a halogen atom among a formula, R2 and R3 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute or], and Ar expresses an aromatic hydrocarbon radical or a heterocycle radical.) n expresses the integer of 1 or 2.
[Formula 47]
The inside of [type and A are N-substitute carbazolyl radical or the following general formula (e).
[Formula 48]
(-- however, Ar is an aromatic hydrocarbon radical or a heterocycle radical, and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- expressing, R expresses an alkyl group, an alkoxy group, or a halogen atom. n expresses the integer of 0-4, and when n is two or more, even if R is the same, it may differ.]

[Formula 49]
The inside of [type and A are N-substitute carbazolyl radical which is not replaced [9-anthryl radical, substitute, or], an N-substituted phenothiazinyl group, or the following general formula (f).
[Formula 50]
(-- however, Ar expresses the arylene radical which is not replaced [substitute or], and R1 and R2 express the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / substitute or /, substitute, or /, substitute, or].) -- expressing, R expresses the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or /, substitute, or]. n expresses the integer of 0-8.
]
[Formula 51]
(R1, R2, R3, R4, and R5 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom among a formula, and even if these are the same, they may differ.)
[Formula 52]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and at least one of R1 and R2 expresses the aryl group which is not replaced [substitute or].)
[Formula 53]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and even if R1 and R2 are the same, they may differ.) R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. m expresses the integer of 1, 2, and 3 and n expresses the integer of 1, 2, 3, and 4. When m or n is two or more, even if R3 and R4 are the same, they may differ.
[Formula 54]
(m expresses the integer of 0 or 1 among a formula, and when m is 1, X expresses an oxygen atom, a sulfur atom, -CH2-, -CH2CH2-, -CH=CH-, or -N(R)- (however, R expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].).) R1 and R2 express an alkyl group, an aralkyl radical, a ring type aromatic series radical, or a heterocycle radical, and R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. Ar expresses a ring type aromatic series radical or a heterocycle radical. n expresses the integer of 0 or 1. R3 may form the benzene ring with X.
[Formula 55]
(Ar expresses a phenylene group or a biphenylene radical among a formula, and R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) n expresses the integer of 1-4.
[Formula 56]
(A1 expresses among a formula the aromatic hydrocarbon radical which is not replaced [substitute or], A2 expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and Ar3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or].) n expresses the integer of m and1, or 2, and m+n is 3. However, when n is m or2, even if A1, Ar3, or A2 is the same, it may differ.
[Formula 57]
(R expresses a low-grade alkyl group or benzyl among a formula, and X expresses the amino group replaced by a hydrogen atom, a low-grade alkyl group, a lower alkoxy group, a halogen atom, the nitro group, the amino group, the low-grade alkyl group, or benzyl.) n expresses the integer of 1 or 2.
[Claim 5] An electrophotography photo conductor according to claim 4 characterized by containing one sort of a compound in which a sensitization layer becomes from a charge generating layer which uses a charge transportation layer and a charge generating material as a principal component at least, and this charge transportation layer is shown by compound shown by general formula (2) at least, general formula (3), or (24).
[Claim 6] An electrophotography photo conductor according to claim 4 characterized by consisting of a monolayer sensitization layer containing one sort of a compound in which a sensitization layer is shown by compound shown by charge generating material and general formula (2) at least, general formula (3), or (24).
[Claim 7] An electrophotography photo conductor characterized by coming to prepare a sensitization layer containing a kind of a compound shown by compound shown by the following general formula (3) at least, the following general formula (4), or (24) on a conductive base material.
[Formula 58]
(Ar expresses among a formula the biphenylene radical which is not replaced [substitute or], R1, R2, and R3 express the alkyl group and alkoxy group which may have a hydrogen atom, a halogen atom, a cyano group, or a substituent, an aryloxy group, an alkyl sulfhydryl group, a methylene dioxy radical, the methylene dithio, and an aryl group, and even if R1, R2, and R3 are the same respectively, they may differ.) l, m, and n express the integer of 1-5, and when each is the integer of 2-5, even if R1, R2, and R3 are the same, they may differ.
[Formula 59]
(Among the formula, A1 and A2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or / substitute, or], and even if respectively the same, they may differ.) Ar expresses the condensation polynuclear hydrocarbon radical which is not replaced [substitute or].
[Formula 60]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /,

substitute, or], and n expresses the integer of 1 or 2.) R3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or], and R4 and R5 express the alkyl group which is not replaced [a hydrogen atom, the amino group, an alkoxy group, a thio alkoxy group, an aryloxy group, substitute, or] and a halogen atom. m expresses the integer of 1, 2, and 3 and l expresses the integer of 1, 2, 3, and 4. When l and m are two or more integers, even if R4 and R5 are the same, they may differ.

[Formula 61]

(R1 expresses among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and R2, R3, and R4 express the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, the amino group, an alkoxy group, a thio alkoxy group, an aryloxy group, a methylene dioxy radical, substitute, or /, a halogen atom, substitute, or].) h expresses the integer of 1, 2, 3, and 4, and k and l express the integer of 1, 2, 3, 4, and 5. When h, k, and l are two or more integers, even if R2, R3, and R4 are the same, they may differ. n expresses the integer of 1, 2, 3, and 4, and m expresses the integer of 4-n. When m is two or more, R1 may be the same or may differ.

[Formula 62]

(Among the formula, R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or / substitute, or], and even if respectively the same, they may differ.) However, 1 and 6-diamino pyrene compound is removed.

[Formula 63]

(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].)

[Formula 64]

(R1 and R2 express among a formula the alkyl group which is not replaced [a hydrogen atom, a halogen atom, a nitro group, a cyano group, substitute, or], R3 and R4 express the alkyl group which is not replaced [a hydrogen atom, a cyano group, an alkoxy carbonyl group, substitute, or], and R5 expresses a hydrogen atom, a low-grade alkyl group, or an alkoxy group.) W expresses the alkyl group which is not replaced [a hydrogen atom, substitute, or]. In the integer of 1-4, and l, the integer of 0-2 and m express the integer of 1 or 2, and n expresses [j / the integer of 1-5, and k] the integer of 1-3.

[Formula 65]

the inside of [type, and R1 -- a hydrogen atom, a halogen atom, a cyano group, and a low-grade alkyl group -- expressing -- Ar -- the following general formula (b) -- or (c) --

[Formula 66]

(-- however, R2, R3, and R6 express the benzyl which is not replaced [the low-grade alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or], and R4 and R5 express a hydrogen atom, a halogen atom, a low-grade alkyl group, a lower alkoxy group, or a JI low-grade alkylamino radical.) -- it expresses.]

[Formula 67]

(R1 expresses a hydrogen atom, low-grade alkyl group, and chloro ethyl group or a hydroxyethyl radical among a formula, R2 expresses a hydrogen atom or a halogen atom, and R3 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)

[Formula 68]

(R1 expresses a low-grade alkyl group among a formula, and R2 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)

[Formula 69]

(Among a formula, even if R1 and R2 are the same, they may differ from each other, and they express the aralkyl radical which is not replaced [a hydrogen atom, low-grade alkyl group and hydroxy low-grade alkyl group, a Krol low-grade alkyl group the acyl group of the carbon numbers 1-2 of alkyl, the cycloalkyl radical of the carbon numbers 5-6 of alkyl, substitute, or].)

[Formula 70]

A-CH2CH2-Ar1-CH2CH2-A (14)

Ar1 expresses among [type the heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and A is N-substitute carbazolyl radical or the following general formula (d) which is not replaced [substitute or].

[Formula 71]

(-- however, Ar2 is a heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- it expresses.]

[Formula 72]

(R1 expresses a hydrogen atom, an alkyl group, an alkoxy group, an aryloxy group, a dialkylamino radical, the diaryl amino group, or a halogen atom among a formula, R2 and R3 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute or], and Ar expresses an aromatic hydrocarbon radical or a heterocycle radical.) n expresses the integer of 1 or 2.

[Formula 73]

The inside of [type and A are N-substitute carbazolyl radical or the following general formula (e).

[Formula 74]

(-- however, Ar is an aromatic hydrocarbon radical or a heterocycle radical, and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- expressing, R expresses an alkyl group, an alkoxy group, or a halogen atom. n expresses the integer of 0-4, and when n is two or more, even if R is the same, it may differ.]
[Formula 75]
The inside of [type and A are N-substitute carbazolyl radical which is not replaced [9-anthryl radical, substitute, or], an N-substituted phenothiazinyl group, or the following general formula (f).
[Formula 76]
(-- however, Ar expresses the arylene radical which is not replaced [substitute or], and R1 and R2 express the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / substitute or /, substitute, or /, substitute, or].) -- expressing, R expresses the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or /, substitute, or]. n expresses the integer of 0-8.]
[Formula 77]
(R1, R2, R3, R4, and R5 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom among a formula, and even if these are the same, they may differ.)
[Formula 78]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and at least one of R1 and R2 expresses the aryl group which is not replaced [substitute or].)
[Formula 79]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and even if R1 and R2 are the same, they may differ.) R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. m expresses the integer of 1, 2, and 3 and n expresses the integer of 1, 2, 3, and 4. When m or n is two or more, even if R3 and R4 are the same, they may differ.
[Formula 80]
(m expresses the integer of 0 or 1 among a formula, and when m is 1, X expresses an oxygen atom, a sulfur atom, -CH2-, -CH2CH2-, -CH=CH-, or -N(R)- (however, R expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].).) R1 and R2 express an alkyl group, an aralkyl radical, a ring type aromatic series radical, or a heterocycle radical, and R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. Ar expresses a ring type aromatic series radical or a heterocycle radical. n expresses the integer of 0 or 1. R3 may form the benzene ring with X.
[Formula 81]
(Ar expresses a phenylene group or a biphenylene radical among a formula, and R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) n expresses the integer of 1-4.
[Formula 82]
(A1 expresses among a formula the aromatic hydrocarbon radical which is not replaced [substitute or], and A2 expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and expresses the aryl group which is not replaced [the alkyl group which is not replaced / A3 hydrogen atom, substitute, or /, substitute, or].) n expresses the integer of m and1, or 2, and m+n is 3. However, when n is m or2, even if A1, A3, or A2 is the same, it may differ.
[Formula 83]
(R expresses a low-grade alkyl group or benzyl among a formula, and X expresses the amino group replaced by a hydrogen atom, a low-grade alkyl group, a lower alkoxy group, a halogen atom, the nitro group, the amino group, the low-grade alkyl group, or benzyl.) n expresses the integer of 1 or 2.
[Claim 8] An electrophotography photo conductor according to claim 7 characterized by containing one sort of a compound in which a sensitization layer becomes from a charge generating layer which uses a charge transportation layer and a charge generating material as a principal component at least, and this charge transportation layer is shown by compound shown by general formula (3) at least, general formula (4), or (24).
[Claim 9] An electrophotography photo conductor according to claim 7 characterized by consisting of a monolayer sensitization layer containing one sort of a compound in which a sensitization layer is shown by compound shown by charge generating material and general formula (3) at least, general formula (4), or (24).
[Claim 10] An electrophotography photo conductor characterized by coming to prepare a sensitization layer containing a kind of a compound shown by compound shown by the following general formula (4) at least, the following general formula (5), or (24) on a conductive base material.
[Formula 84]
(Among the formula, A1 and A2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or / substitute, or], and even if respectively the same, they may differ.) Ar expresses the condensation polynuclear hydrocarbon radical which is not replaced [substitute or].
[Formula 85]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and n expresses the integer of 1 or 2.) R3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or], and R4 and R5 express the alkyl group which is not replaced [a hydrogen atom, the amino group, an alkoxy group, a thio alkoxy group, an aryloxy group, substitute, or] and a halogen atom. m

expresses the integer of 1, 2, and 3 and l expresses the integer of 1, 2, 3, and 4. When l and m are two or more integers, even if R4 and R5 are the same, they may differ.
[Formula 86]
(R1 expresses among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and R2, R3, and R4 express the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, the amino group, an alkoxy group, a thio alkoxy group, an aryloxy group, a methylene dioxy radical, substitute, or /, a halogen atom, substitute, or].) h expresses the integer of 1, 2, 3, and 4, and k and l express the integer of 1, 2, 3, 4, and 5. When h, k, and l are two or more integers, even if R2, R3, and R4 are the same, they may differ. n expresses the integer of 1, 2, 3, and 4, and m expresses the integer of 4-n. When m is two or more, R1 may be the same or may differ.
[Formula 87]
(Among the formula, R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or / substitute, or], and even if respectively the same, they may differ.) However, 1 and 6-diamino pyrene compound is removed.
[Formula 88]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].)
[Formula 89]
(R1 and R2 express among a formula the alkyl group which is not replaced [a hydrogen atom, a halogen atom, a nitro group, a cyano group, substitute, or], R3 and R4 express the alkyl group which is not replaced [a hydrogen atom, a cyano group, an alkoxy carbonyl group, substitute, or], and R5 expresses a hydrogen atom, a low-grade alkyl group, or an alkoxy group.) W expresses the alkyl group which is not replaced [a hydrogen atom, substitute, or]. In the integer of 1-4, and l, the integer of 0-2 and m express the integer of 1 or 2, and n expresses [j / the integer of 1-5, and k] the integer of 1-3.
[Formula 90]
the inside of [type, and R1 -- a hydrogen atom, a halogen atom, a cyano group, and a low-grade alkyl group -- expressing -- Ar -- the following general formula (b) -- or (c) --
[Formula 91]
(-- however, R2, R3, and R6 express the benzyl which is not replaced [the low-grade alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or], and R4 and R5 express a hydrogen atom, a halogen atom, a low-grade alkyl group, a lower alkoxy group, or a JI low-grade alkylamino radical.) -- it expresses.]
[Formula 92]
(R1 expresses a hydrogen atom, low-grade alkyl group, and chloro ethyl group or a hydroxyethyl radical among a formula, R2 expresses a hydrogen atom or a halogen atom, and R3 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 93]
(R1 expresses a low-grade alkyl group among a formula, and R2 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 94]
(Among a formula, even if R1 and R2 are the same, they may differ from each other, and they express the aralkyl radical which is not replaced [a hydrogen atom, low-grade alkyl group and hydroxy low-grade alkyl group, a Krol low-grade alkyl group the acyl group of the carbon numbers 1-2 of alkyl, the cycloalkyl radical of the carbon numbers 5-6 of alkyl, substitute, or].)
[Formula 95]
A-CH2CH2-Ar1-CH2CH2-A (14)
Ar1 expresses among [type the heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and A is N-substitute carbazolyl radical or the following general formula (d) which is not replaced [substitute or].
[Formula 96]
(-- however, Ar2 is a heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- it expresses.]
[Formula 97]
(R1 expresses a hydrogen atom, an alkyl group, an alkoxy group, an aryloxy group, a dialkylamino radical, the diaryl amino group, or a halogen atom among a formula, R2 and R3 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute or], and Ar expresses an aromatic hydrocarbon radical or a heterocycle radical.) n expresses the integer of 1 or 2.
[Formula 98]
The inside of [type and A are N-substitute carbazolyl radical or the following general formula (e).
[Formula 99]
(-- however, Ar is an aromatic hydrocarbon radical or a heterocycle radical, and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- expressing, R expresses an alkyl group, an alkoxy group, or a halogen atom. n expresses the integer of 0-4, and when n is two or more, even if R is the same, it may differ.]

[Formula 100]
The inside of [type and A are N-substitute carbazolyl radical which is not replaced [9-anthryl radical, substitute, or], an N-substituted phenothiazinyl group, or the following general formula (f).
[Formula 101]
(-- however, Ar expresses the arylene radical which is not replaced [substitute or], and R1 and R2 express the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / substitute or /, substitute, or /, substitute, or].) -- expressing, R expresses the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or /, substitute, or]. n expresses the integer of 0-8.
]
[Formula 102]
(R1, R2, R3, R4, and R5 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom among a formula, and even if these are the same, they may differ.)
[Formula 103]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and at least one of R1 and R2 expresses the aryl group which is not replaced [substitute or].)
[Formula 104]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and even if R1 and R2 are the same, they may differ.) R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. m expresses the integer of 1, 2, and 3 and n expresses the integer of 1, 2, 3, and 4. When m or n is two or more, even if R3 and R4 are the same, they may differ.
[Formula 105]
(m expresses the integer of 0 or 1 among a formula, and when m is 1, X expresses an oxygen atom, a sulfur atom, -CH2-, -CH2CH2-, -CH=CH-, or -N(R)- (however, R expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].).) R1 and R2 express an alkyl group, an aralkyl radical, a ring type aromatic series radical, or a heterocycle radical, and R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. Ar expresses a ring type aromatic series radical or a heterocycle radical. n expresses the integer of 0 or 1. R3 may form the benzene ring with X.
[Formula 106]
(Ar expresses a phenylene group or a biphenylene radical among a formula, and R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) n expresses the integer of 1-4.
[Formula 107]
(A1 expresses among a formula the aromatic hydrocarbon radical which is not replaced [substitute or], A2 expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and A3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or].) n expresses the integer of m and1, or 2, and m+n is 3. However, when n is m or2, even if A1, A3, or A2 is the same, it may differ.
[Formula 108]
(R expresses a low-grade alkyl group or benzyl among a formula, and X expresses the amino group replaced by a hydrogen atom, a low-grade alkyl group, a lower alkoxy group, a halogen atom, the nitro group, the amino group, the low-grade alkyl group, or benzyl.) n expresses the integer of 1 or 2.
[Claim 11] An electrophotography photo conductor according to claim 10 characterized by containing one sort of a compound in which a sensitization layer becomes from a charge generating layer which uses a charge transportation layer and a charge generating material as a principal component at least, and this charge transportation layer is shown by compound shown by general formula (4) at least, general formula (5), or (24).
[Claim 12] An electrophotography photo conductor according to claim 10 characterized by consisting of a monolayer sensitization layer containing one sort of a compound in which a sensitization layer is shown by compound shown by charge generating material and general formula (4) at least, general formula (5), or (24).
[Claim 13] An electrophotography photo conductor characterized by coming to prepare a sensitization layer containing a kind of a compound shown by compound shown by the following general formula (5) at least, the following general formula (6), or (24) on a conductive base material.
[Formula 109]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and n expresses the integer of 1 or 2.) R3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or], and R4 and R5 express the alkyl group which is not replaced [a hydrogen atom, the amino group, an alkoxy group, a thio alkoxy group, an aryloxy group, substitute, or] and a halogen atom. m expresses the integer of 1, 2, and 3 and l expresses the integer of 1, 2, 3, and 4. When l and m are two or more integers, even if R4 and R5 are the same, they may differ.
[Formula 110]
(R1 expresses among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and R2, R3, and R4 express the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, the amino group, an alkoxy group, a thio alkoxy group, an aryloxy group, a methylene dioxy radical, substitute, or /, a halogen atom, substitute, or].) h expresses the integer of 1, 2, 3, and 4, and k and l express the integer of 1, 2, 3, 4, and 5.

When h, k, and l are two or more integers, even if R2, R3, and R4 are the same, they may differ. n expresses the integer of 1, 2, 3, and 4, and m expresses the integer of 4-n. When m is two or more, R1 may be the same or may differ.
[Formula 111]
(Among the formula, R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or / substitute, or], and even if respectively the same, they may differ.) However, 1 and 6-diamino pyrene compound is removed.
[Formula 112]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].)
[Formula 113]
(R1 and R2 express among a formula the alkyl group which is not replaced [a hydrogen atom, a halogen atom, a nitro group, a cyano group, substitute, or], R3 and R4 express the alkyl group which is not replaced [a hydrogen atom, a cyano group, an alkoxy carbonyl group, substitute, or], and R5 expresses a hydrogen atom, a low-grade alkyl group, or an alkoxy group.) W expresses the alkyl group which is not replaced [a hydrogen atom, substitute, or]. In the integer of 1-4, and l, the integer of 0-2 and m express the integer of 1 or 2, and n expresses [j / the integer of 1-5, and k] the integer of 1-3.
[Formula 114]
the inside of [type, and R1 -- a hydrogen atom, a halogen atom, a cyano group, and a low-grade alkyl group -- expressing -- Ar -- the following general formula (b) -- or (c) --
[Formula 115]
(-- however, R2, R3, and R6 express the benzyl which is not replaced [the low-grade alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or], and R4 and R5 express a hydrogen atom, a halogen atom, a low-grade alkyl group, a lower alkoxy group, or a JI low-grade alkylamino radical.) -- it expresses.]
[Formula 116]
(R1 expresses a hydrogen atom, low-grade alkyl group, and chloro ethyl group or a hydroxyethyl radical among a formula, R2 expresses a hydrogen atom or a halogen atom, and R3 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 117]
(R1 expresses a low-grade alkyl group among a formula, and R2 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 118]
(Among a formula, even if R1 and R2 are the same, they may differ from each other, and they express the aralkyl radical which is not replaced [a hydrogen atom, low-grade alkyl group and hydroxy low-grade alkyl group, a Krol low-grade alkyl group the acyl group of the carbon numbers 1-2 of alkyl, the cycloalkyl radical of the carbon numbers 5-6 of alkyl, substitute, or].)
[Formula 119]
A-CH2CH2-Ar1-CH2CH2-A (14)
Ar1 expresses among [type the heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and A is N-substitute carbazolyl radical or the following general formula (d) which is not replaced [substitute or].
[Formula 120]
(-- however, Ar2 is a heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- it expresses.]
[Formula 121]
(R1 expresses a hydrogen atom, an alkyl group, an alkoxy group, an aryloxy group, a dialkylamino radical, the diaryl amino group, or a halogen atom among a formula, R2 and R3 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute or], and Ar expresses an aromatic hydrocarbon radical or a heterocycle radical.) n expresses the integer of 1 or 2.
[Formula 122]
The inside of [type and A are N-substitute carbazolyl radical or the following general formula (e).
[Formula 123]
(-- however, Ar is an aromatic hydrocarbon radical or a heterocycle radical, and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- expressing, R expresses an alkyl group, an alkoxy group, or a halogen atom. n expresses the integer of 0-4, and when n is two or more, even if R is the same, it may differ.]
[Formula 124]
The inside of [type and A are N-substitute carbazolyl radical which is not replaced [9-anthryl radical, substitute, or], an N-substituted phenothiazinyl group, or the following general formula (f).
[Formula 125]
(-- however, Ar expresses the arylene radical which is not replaced [substitute or], and R1 and R2 express the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / substitute or /, substitute, or /, substitute, or].) -- expressing, R expresses the aryl group which is not replaced [the aralkyl radical which is not replaced / the

alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or /, substitute, or]. n expresses the integer of 0-8.
]
[Formula 126]
(R1, R2, R3, R4, and R5 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom among a formula, and even if these are the same, they may differ.)
[Formula 127]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and at least one of R1 and R2 expresses the aryl group which is not replaced [substitute or].)
[Formula 128]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and even if R1 and R2 are the same, they may differ.) R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. m expresses the integer of 1, 2, and 3 and n expresses the integer of 1, 2, 3, and 4. When m or n is two or more, even if R3 and R4 are the same, they may differ.
[Formula 129]
(m expresses the integer of 0 or 1 among a formula, and when m is 1, X expresses an oxygen atom, a sulfur atom, -CH2-, -CH2CH2-, -CH=CH-, or -N(R)- (however, R expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].).) R1 and R2 express an alkyl group, an aralkyl radical, a ring type aromatic series radical, or a heterocycle radical, and R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. Ar expresses a ring type aromatic series radical or a heterocycle radical. n expresses the integer of 0 or 1. R3 may form the benzene ring with X.
[Formula 130]
(Ar expresses a phenylene group or a biphenylene radical among a formula, and R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) n expresses the integer of 1-4.
[Formula 131]
(A1 expresses among a formula the aromatic hydrocarbon radical which is not replaced [substitute or], A2 expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and A3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or].) n expresses the integer of m and1, or 2, and m+n is 3. However, when n is m or2, even if A1, A3, or A2 is the same, it may differ.
[Formula 132]
(R expresses a low-grade alkyl group or benzyl among a formula, and X expresses the amino group replaced by a hydrogen atom, a low-grade alkyl group, a lower alkoxy group, a halogen atom, the nitro group, the amino group, the low-grade alkyl group, or benzyl.) n expresses the integer of 1 or 2.
[Claim 14] An electrophotography photo conductor according to claim 13 characterized by containing one sort of a compound in which a sensitization layer becomes from a charge generating layer which uses a charge transportation layer and a charge generating material as a principal component at least, and this charge transportation layer is shown by compound shown by general formula (5) at least, general formula (6), or (24).
[Claim 15] An electrophotography photo conductor according to claim 13 characterized by consisting of a monolayer sensitization layer containing one sort of a compound in which a sensitization layer is shown by compound shown by charge generating material and general formula (5) at least, general formula (6), or (24).
[Claim 16] An electrophotography photo conductor characterized by coming to prepare a sensitization layer containing a kind of a compound shown by compound shown by the following general formula (6) at least, the following general formula (7), or (24) on a conductive base material.
[Formula 133]
(R1 expresses among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and R2, R3, and R4 express the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, the amino group, an alkoxy group, a thio alkoxy group, an aryloxy group, a methylene dioxy radical, substitute, or /, a halogen atom, substitute, or].) h expresses the integer of 1, 2, 3, and 4, and k and l express the integer of 1, 2, 3, 4, and 5. When h, k, and l are two or more integers, even if R2, R3, and R4 are the same, they may differ. n expresses the integer of 1, 2, 3, and 4, and m expresses the integer of 4-n. When m is two or more, R1 may be the same or may differ.
[Formula 134]
(Among the formula, R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or / substitute, or], and even if respectively the same, they may differ.) However, 1 and 6-diamino pyrene compound is removed.
[Formula 135]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].)
[Formula 136]
(R1 and R2 express among a formula the alkyl group which is not replaced [a hydrogen atom, a halogen atom, a nitro group, a cyano group, substitute, or], R3 and R4 express the alkyl group which is not replaced [a hydrogen atom, a cyano group, an alkoxy carbonyl group, substitute, or], and R5 expresses a hydrogen atom, a low-grade alkyl group, or an alkoxy group.) W expresses the alkyl group which is not replaced [a hydrogen atom, substitute, or]. In the integer of 1-4, and l, the integer of 0-2 and m express the integer of 1 or 2, and n expresses [j / the integer of 1-5, and k] the integer of 1-3.

[Formula 137]
the inside of [type, and R1 -- a hydrogen atom, a halogen atom, a cyano group, and a low-grade alkyl group -- expressing -- Ar -- the following general formula (b) -- or (c) --
[Formula 138]
(-- however, R2, R3, and R6 express the benzyl which is not replaced [the low-grade alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or], and R4 and R5 express a hydrogen atom, a halogen atom, a low-grade alkyl group, a lower alkoxy group, or a JI low-grade alkylamino radical.) -- it expresses.]
[Formula 139]
(R1 expresses a hydrogen atom, low-grade alkyl group, and chloro ethyl group or a hydroxyethyl radical among a formula, R2 expresses a hydrogen atom or a halogen atom, and R3 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 140]
(R1 expresses a low-grade alkyl group among a formula, and R2 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 141]
(Among a formula, even if R1 and R2 are the same, they may differ from each other, and they express the aralkyl radical which is not replaced [a hydrogen atom, low-grade alkyl group and hydroxy low-grade alkyl group, a Krol low-grade alkyl group the acyl group of the carbon numbers 1-2 of alkyl, the cycloalkyl radical of the carbon numbers 5-6 of alkyl, substitute, or].)
[Formula 142]
A-CH2CH2-Ar1-CH2CH2-A (14)
Ar1 expresses among [type the heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and A is N-substitute carbazolyl radical or the following general formula (d) which is not replaced [substitute or].
[Formula 143]
(-- however, Ar2 is a heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- it expresses.]
[Formula 144]
(R1 expresses a hydrogen atom, an alkyl group, an alkoxy group, an aryloxy group, a dialkylamino radical, the diaryl amino group, or a halogen atom among a formula, R2 and R3 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute or], and Ar expresses an aromatic hydrocarbon radical or a heterocycle radical.) n expresses the integer of 1 or 2.
[Formula 145]
The inside of [type and A are N-substitute carbazolyl radical or the following general formula (e).
[Formula 146]
(-- however, Ar is an aromatic hydrocarbon radical or a heterocycle radical, and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- expressing, R expresses an alkyl group, an alkoxy group, or a halogen atom. n expresses the integer of 0-4, and when n is two or more, even if R is the same, it may differ.]
[Formula 147]
The inside of [type and A are N-substitute carbazolyl radical which is not replaced [9-anthryl radical, substitute, or], an N-substituted phenothiazinyl group, or the following general formula (f).
[Formula 148]
(-- however, Ar expresses the arylene radical which is not replaced [substitute or], and R1 and R2 express the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / substitute or /, substitute, or /, substitute, or].) -- expressing, R expresses the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or /, substitute, or]. n expresses the integer of 0-8.]
[Formula 149]
(R1, R2, R3, R4, and R5 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom among a formula, and even if these are the same, they may differ.)
[Formula 150]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and at least one of R1 and R2 expresses the aryl group which is not replaced [substitute or].)
[Formula 151]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and even if R1 and R2 are the same, they may differ.) R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. m expresses the integer of 1, 2, and 3 and n expresses the integer of 1, 2, 3, and 4. When m or n is two or more, even if R3 and R4 are the same, they may differ.
[Formula 152]

(m expresses the integer of 0 or 1 among a formula, and when m is 1, X expresses an oxygen atom, a sulfur atom, -CH2-, -CH2CH2-, -CH=CH-, or -N(R)- (however, R expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].).) R1 and R2 express an alkyl group, an aralkyl radical, a ring type aromatic series radical, or a heterocycle radical, and R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. Ar expresses a ring type aromatic series radical or a heterocycle radical. n expresses the integer of 0 or 1. R3 may form the benzene ring with X.

[Formula 153]

(Ar expresses a phenylene group or a biphenylene radical among a formula, and R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) n expresses the integer of 1-4.

[Formula 154]

(A1 expresses among a formula the aromatic hydrocarbon radical which is not replaced [substitute or], A2 expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and A3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or].) n expresses the integer of m and1, or 2, and m+n is 3. However, when n is m or2, even if A1, A3, or A2 is the same, it may differ.

[Formula 155]

(R expresses a low-grade alkyl group or benzyl among a formula, and X expresses the amino group replaced by a hydrogen atom, a low-grade alkyl group, a lower alkoxy group, a halogen atom, the nitro group, the amino group, the low-grade alkyl group, or benzyl.) n expresses the integer of 1 or 2.

[Claim 17] An electrophotography photo conductor according to claim 16 characterized by containing one sort of a compound in which a sensitization layer becomes from a charge generating layer which uses a charge transportation layer and a charge generating material as a principal component at least, and this charge transportation layer is shown by compound shown by general formula (6) at least, general formula (7), or (24).

[Claim 18] An electrophotography photo conductor according to claim 16 characterized by consisting of a monolayer sensitization layer containing one sort of a compound in which a sensitization layer is shown by compound shown by charge generating material and general formula (6) at least, general formula (7), or (24).

[Claim 19] An electrophotography photo conductor characterized by coming to prepare a sensitization layer containing a kind of a compound shown by compound shown by the following general formula (7) at least, the following general formula (8), or (24) on a conductive base material.

[Formula 156]

(Among the formula, R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or / substitute, or], and even if respectively the same, they may differ.) However, 1 and 6-diamino pyrene compound is removed.

[Formula 157]

(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].)

[Formula 158]

(R1 and R2 express among a formula the alkyl group which is not replaced [a hydrogen atom, a halogen atom, a nitro group, a cyano group, substitute, or], R3 and R4 express the alkyl group which is not replaced [a hydrogen atom, a cyano group, an alkoxy carbonyl group, substitute, or], and R5 expresses a hydrogen atom, a low-grade alkyl group, or an alkoxy group.) W expresses the alkyl group which is not replaced [a hydrogen atom, substitute, or]. In the integer of 1-4, and l, the integer of 0-2 and m express the integer of 1 or 2, and n expresses [j / the integer of 1-5, and k] the integer of 1-3.

[Formula 159]

the inside of [type, and R1 -- a hydrogen atom, a halogen atom, a cyano group, and a low-grade alkyl group -- expressing -- Ar -- the following general formula (b) -- or (c) --

[Formula 160]

(-- however, R2, R3, and R6 express the benzyl which is not replaced [the low-grade alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or], and R4 and R5 express a hydrogen atom, a halogen atom, a low-grade alkyl group, a lower alkoxy group, or a JI low-grade alkylamino radical.) -- it expresses.]

[Formula 161]

(R1 expresses a hydrogen atom, low-grade alkyl group, and chloro ethyl group or a hydroxyethyl radical among a formula, R2 expresses a hydrogen atom or a halogen atom, and R3 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)

[Formula 162]

(R1 expresses a low-grade alkyl group among a formula, and R2 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)

[Formula 163]

(Among a formula, even if R1 and R2 are the same, they may differ from each other, and they express the aralkyl radical which is not replaced [a hydrogen atom, low-grade alkyl group and hydroxy low-grade alkyl group, a Krol low-grade alkyl group the acyl group of the carbon numbers 1-2 of alkyl, the cycloalkyl radical of the carbon numbers 5-6 of alkyl, substitute, or].)

[Formula 164]

A-CH2CH2-Ar1-CH2CH2-A (14)
Ar1 expresses among [type the heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and A is N-substitute carbazolyl radical or the following general formula (d) which is not replaced [substitute or].
[Formula 165]
(-- however, Ar2 is a heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- it expresses.]
[Formula 166]
(R1 expresses a hydrogen atom, an alkyl group, an alkoxy group, an aryloxy group, a dialkylamino radical, the diaryl amino group, or a halogen atom among a formula, R2 and R3 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute or], and Ar expresses an aromatic hydrocarbon radical or a heterocycle radical.) n expresses the integer of 1 or 2.
[Formula 167]
The inside of [type and A are N-substitute carbazolyl radical or the following general formula (e).
[Formula 168]
(-- however, Ar is an aromatic hydrocarbon radical or a heterocycle radical, and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- expressing, R expresses an alkyl group, an alkoxy group, or a halogen atom. n expresses the integer of 0-4, and when n is two or more, even if R is the same, it may differ.]
[Formula 169]
The inside of [type and A are N-substitute carbazolyl radical which is not replaced [9-anthryl radical, substitute, or], an N-substituted phenothiazinyl group, or the following general formula (f).
[Formula 170]
(-- however, Ar expresses the arylene radical which is not replaced [substitute or], and R1 and R2 express the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / substitute or /, substitute, or /, substitute, or].) -- expressing, R expresses the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or /, substitute, or]. n expresses the integer of 0-8.]
[Formula 171]
(R1, R2, R3, R4, and R5 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom among a formula, and even if these are the same, they may differ.)
[Formula 172]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and at least one of R1 and R2 expresses the aryl group which is not replaced [substitute or].)
[Formula 173]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and even if R1 and R2 are the same, they may differ.) R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. m expresses the integer of 1, 2, and 3 and n expresses the integer of 1, 2, 3, and 4. When m or n is two or more, even if R3 and R4 are the same, they may differ.
[Formula 174]
(m expresses the integer of 0 or 1 among a formula, and when m is 1, X expresses an oxygen atom, a sulfur atom, -CH2-, -CH2CH2-, -CH=CH-, or -N(R)- (however, R expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].).) R1 and R2 express an alkyl group, an aralkyl radical, a ring type aromatic series radical, or a heterocycle radical, and R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. Ar expresses a ring type aromatic series radical or a heterocycle radical. n expresses the integer of 0 or 1. R3 may form the benzene ring with X.
[Formula 175]
(Ar expresses a phenylene group or a biphenylene radical among a formula, and R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) n expresses the integer of 1-4.
[Formula 176]
(A1 expresses among a formula the aromatic hydrocarbon radical which is not replaced [substitute or], A2 expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and A3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or].) n expresses the integer of m and1, or 2, and m+n is 3. However, when n is m or2, even if A1, A3, or A2 is the same, it may differ.
[Formula 177]
(R expresses a low-grade alkyl group or benzyl among a formula, and X expresses the amino group replaced by a hydrogen atom, a low-grade alkyl group, a lower alkoxy group, a halogen atom, the nitro group, the amino group, the low-grade alkyl group, or benzyl.) n expresses the integer of 1 or 2.
[Claim 20] An electrophotography photo conductor according to claim 19 characterized by containing one sort of a compound in which a sensitization layer becomes from a charge generating layer which uses a charge transportation layer and a charge generating material as a principal component at least, and this charge transportation layer is shown by compound shown by

general formula (7) at least, general formula (8), or (24).
[Claim 21] An electrophotography photo conductor according to claim 19 characterized by consisting of a monolayer sensitization layer containing one sort of a compound in which a sensitization layer is shown by compound shown by charge generating material and general formula (7) at least, general formula (8), or (24).
[Claim 22] An electrophotography photo conductor characterized by coming to prepare a sensitization layer containing a kind of a compound shown by compound shown by the following general formula (8) at least, the following general formula (9), or (24) on a conductive base material.
[Formula 178]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].)
[Formula 179]
(R1 and R2 express among a formula the alkyl group which is not replaced [a hydrogen atom, a halogen atom, a nitro group, a cyano group, substitute, or], R3 and R4 express the alkyl group which is not replaced [a hydrogen atom, a cyano group, an alkoxy carbonyl group, substitute, or], and R5 expresses a hydrogen atom, a low-grade alkyl group, or an alkoxy group.) W expresses the alkyl group which is not replaced [a hydrogen atom, substitute, or]. In the integer of 1-4, and l, the integer of 0-2 and m express the integer of 1 or 2, and n expresses [j / the integer of 1-5, and k] the integer of 1-3.
[Formula 180]
the inside of [type, and R1 -- a hydrogen atom, a halogen atom, a cyano group, and a low-grade alkyl group -- expressing -- Ar -- the following general formula (b) -- or (c) --
[Formula 181]
(-- however, R2, R3, and R6 express the benzyl which is not replaced [the low-grade alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or], and R4 and R5 express a hydrogen atom, a halogen atom, a low-grade alkyl group, a lower alkoxy group, or a JI low-grade alkylamino radical.) -- it expresses.]
[Formula 182]
(R1 expresses a hydrogen atom, low-grade alkyl group, and chloro ethyl group or a hydroxyethyl radical among a formula, R2 expresses a hydrogen atom or a halogen atom, and R3 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 183]
(R1 expresses a low-grade alkyl group among a formula, and R2 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 184]
(Among a formula, even if R1 and R2 are the same, they may differ from each other, and they express the aralkyl radical which is not replaced [a hydrogen atom, low-grade alkyl group and hydroxy low-grade alkyl group, a Krol low-grade alkyl group the acyl group of the carbon numbers 1-2 of alkyl, the cycloalkyl radical of the carbon numbers 5-6 of alkyl, substitute, or].)
[Formula 185]
A-CH2CH2-Ar1-CH2CH2-A (14)
Ar1 expresses among [type the heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and A is N-substitute carbazolyl radical or the following general formula (d) which is not replaced [substitute or].
[Formula 186]
(-- however, Ar2 is a heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- it expresses.]
[Formula 187]
(R1 expresses a hydrogen atom, an alkyl group, an alkoxy group, an aryloxy group, a dialkylamino radical, the diaryl amino group, or a halogen atom among a formula, R2 and R3 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute or], and Ar expresses an aromatic hydrocarbon radical or a heterocycle radical.) n expresses the integer of 1 or 2.
[Formula 188]
The inside of [type and A are N-substitute carbazolyl radical or the following general formula (e).
[Formula 189]
(-- however, Ar is an aromatic hydrocarbon radical or a heterocycle radical, and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- expressing, R expresses an alkyl group, an alkoxy group, or a halogen atom. n expresses the integer of 0-4, and when n is two or more, even if R is the same, it may differ.]
[Formula 190]
The inside of [type and A are N-substitute carbazolyl radical which is not replaced [9-anthryl radical, substitute, or], an N-substituted phenothiazinyl group, or the following general formula (f).
[Formula 191]
(-- however, Ar expresses the arylene radical which is not replaced [substitute or], and R1 and R2 express the aryl group which

is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / substitute or /, substitute, or /, substitute, or].) -- expressing, R expresses the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or /, substitute, or]. n expresses the integer of 0-8.]

[Formula 192]

(R1, R2, R3, R4, and R5 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom among a formula, and even if these are the same, they may differ.)

[Formula 193]

(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and at least one of R1 and R2 expresses the aryl group which is not replaced [substitute or].)

[Formula 194]

(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and even if R1 and R2 are the same, they may differ.) R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. m expresses the integer of 1, 2, and 3 and n expresses the integer of 1, 2, 3, and 4. When m or n is two or more, even if R3 and R4 are the same, they may differ.

[Formula 195]

(m expresses the integer of 0 or 1 among a formula, and when m is 1, X expresses an oxygen atom, a sulfur atom, -CH2-, -CH2CH2-, -CH=CH-, or -N(R)- (however, R expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].).) R1 and R2 express an alkyl group, an aralkyl radical, a ring type aromatic series radical, or a heterocycle radical, and R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. Ar expresses a ring type aromatic series radical or a heterocycle radical. n expresses the integer of 0 or 1. R3 may form the benzene ring with X.

[Formula 196]

(Ar expresses a phenylene group or a biphenylene radical among a formula, and R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) n expresses the integer of 1-4.

[Formula 197]

(A1 expresses among a formula the aromatic hydrocarbon radical which is not replaced [substitute or], A2 expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and A3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or].) n expresses the integer of m and1, or 2, and m+n is 3. However, when n is m or2, even if A1, A3, or A2 is the same, it may differ.

[Formula 198]

(R expresses a low-grade alkyl group or benzyl among a formula, and X expresses the amino group replaced by a hydrogen atom, a low-grade alkyl group, a lower alkoxy group, a halogen atom, the nitro group, the amino group, the low-grade alkyl group, or benzyl.) n expresses the integer of 1 or 2.

[Claim 23] An electrophotography photo conductor according to claim 22 characterized by containing one sort of a compound in which a sensitization layer becomes from a charge generating layer which uses a charge transportation layer and a charge generating material as a principal component at least, and this charge transportation layer is shown by compound shown by general formula (8) at least, general formula (9), or (24).

[Claim 24] An electrophotography photo conductor according to claim 22 characterized by consisting of a monolayer sensitization layer containing one sort of a compound in which a sensitization layer is shown by compound shown by charge generating material and general formula (8) at least, general formula (9), or (24).

[Claim 25] An electrophotography photo conductor characterized by coming to prepare a sensitization layer containing a kind of a compound shown by compound shown by the following general formula (9) at least, the following general formula (10), or (24) on a conductive base material.

[Formula 199]

(R1 and R2 express among a formula the alkyl group which is not replaced [a hydrogen atom, a halogen atom, a nitro group, a cyano group, substitute, or], R3 and R4 express the alkyl group which is not replaced [a hydrogen atom, a cyano group, an alkoxy carbonyl group, substitute, or], and R5 expresses a hydrogen atom, a low-grade alkyl group, or an alkoxy group.) W expresses the alkyl group which is not replaced [a hydrogen atom, substitute, or]. In the integer of 1-4, and l, the integer of 0-2 and m express the integer of 1 or 2, and n expresses [j / the integer of 1-5, and k] the integer of 1-3.

[Formula 200]

the inside of [type, and R1 -- a hydrogen atom, a halogen atom, a cyano group, and a low-grade alkyl group -- expressing -- Ar -- the following general formula (b) -- or (c) --

[Formula 201]

(-- however, R2, R3, and R6 express the benzyl which is not replaced [the low-grade alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or], and R4 and R5 express a hydrogen atom, a halogen atom, a low-grade alkyl group, a lower alkoxy group, or a JI low-grade alkylamino radical.) -- it expresses.]

[Formula 202]

(R1 expresses a hydrogen atom, low-grade alkyl group, and chloro ethyl group or a hydroxyethyl radical among a formula, R2 expresses a hydrogen atom or a halogen atom, and R3 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the

diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 203]
(R1 expresses a low-grade alkyl group among a formula, and R2 expresses the heterocycle residue which is not replaced [the ring residue which is not replaced / the styryl radical which is not replaced / a low-grade alkyl group and JI low-grade alkylamino radical, the diaryl amino group, substitute, or /, substitute, or /, substitute, or].)
[Formula 204]
(Among a formula, even if R1 and R2 are the same, they may differ from each other, and they express the aralkyl radical which is not replaced [a hydrogen atom, low-grade alkyl group and hydroxy low-grade alkyl group, a Krol low-grade alkyl group the acyl group of the carbon numbers 1-2 of alkyl, the cycloalkyl radical of the carbon numbers 5-6 of alkyl, substitute, or].)
[Formula 205]
A-CH2CH2-Ar1-CH2CH2-A (14)
Ar1 expresses among [type the heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and A is N-substitute carbazolyl radical or the following general formula (d) which is not replaced [substitute or].
[Formula 206]
(-- however, Ar2 is a heterocycle radical which is not replaced [the aromatic hydrocarbon radical which is not replaced / substitute or /, substitute, or], and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- it expresses.]
[Formula 207]
(R1 expresses a hydrogen atom, an alkyl group, an alkoxy group, an aryloxy group, a dialkylamino radical, the diaryl amino group, or a halogen atom among a formula, R2 and R3 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute or], and Ar expresses an aromatic hydrocarbon radical or a heterocycle radical.) n expresses the integer of 1 or 2.
[Formula 208]
The inside of [type and A are N-substitute carbazolyl radical or the following general formula (e).
[Formula 209]
(-- however, Ar is an aromatic hydrocarbon radical or a heterocycle radical, and R1 and R2 are aryl groups which are not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) -- expressing, R expresses an alkyl group, an alkoxy group, or a halogen atom. n expresses the integer of 0-4, and when n is two or more, even if R is the same, it may differ.]
[Formula 210]
The inside of [type and A are N-substitute carbazolyl radical which is not replaced [9-anthryl radical, substitute, or], an N-substituted phenothiazinyl group, or the following general formula (f).
[Formula 211]
(-- however, Ar expresses the arylene radical which is not replaced [substitute or], and R1 and R2 express the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / substitute or /, substitute, or /, substitute, or].) -- expressing, R expresses the aryl group which is not replaced [the aralkyl radical which is not replaced / the alkyl group which is not replaced / a hydrogen atom, substitute or /, substitute, or /, substitute, or]. n expresses the integer of 0-8.]
[Formula 212]
(R1, R2, R3, R4, and R5 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom among a formula, and even if these are the same, they may differ.)
[Formula 213]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and at least one of R1 and R2 expresses the aryl group which is not replaced [substitute or].)
[Formula 214]
(R1 and R2 express among a formula the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and even if R1 and R2 are the same, they may differ.) R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. m expresses the integer of 1, 2, and 3 and n expresses the integer of 1, 2, 3, and 4. When m or n is two or more, even if R3 and R4 are the same, they may differ.
[Formula 215]
(m expresses the integer of 0 or 1 among a formula, and when m is 1, X expresses an oxygen atom, a sulfur atom, -CH2-, -CH2CH2-, -CH=CH-, or -N(R)- (however, R expresses the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].).) R1 and R2 express an alkyl group, an aralkyl radical, a ring type aromatic series radical, or a heterocycle radical, and R3 and R4 express a hydrogen atom, an alkyl group, an alkoxy group, or a halogen atom. Ar expresses a ring type aromatic series radical or a heterocycle radical. n expresses the integer of 0 or 1. R3 may form the benzene ring with X.
[Formula 216]
(Ar expresses a phenylene group or a biphenylene radical among a formula, and R1 and R2 express the aryl group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or].) n expresses the integer of 1-4.
[Formula 217]
(A1 expresses among a formula the aromatic hydrocarbon radical which is not replaced [substitute or], A2 expresses the aryl

group which is not replaced [the alkyl group which is not replaced / substitute or /, substitute, or], and A3 expresses the aryl group which is not replaced [the alkyl group which is not replaced / a hydrogen atom, substitute, or /, substitute, or].) n expresses the integer of m and1, or 2, and m+n is 3. However, when n is m or2, even if A1, A3, or A2 is the same, it may differ.
[Formula 218]
(R expresses a low-grade alkyl group or benzyl among a formula, and X expresses the amino group replaced by a hydrogen atom, a low-grade alkyl group, a lower alkoxy group, a halogen atom, the nitro group, the amino group, the low-grade alkyl group, or benzyl.) n expresses the integer of 1 or 2.
[Claim 26] An electrophotography photo conductor according to claim 25 characterized by containing one sort of a compound in which a sensitization layer becomes from a charge generating layer which uses a charge transportation layer and a charge generating material as a principal component at least, and this charge transportation layer is shown by compound shown by general formula (9) at least, general formula (10), or (24).
[Claim 27] An electrophotography photo conductor according to claim 25 characterized by consisting of a monolayer sensitization layer containing one sort of a compound in which a sensitization layer is shown by compound shown by charge generating material and general formula (9) at least, general formula (10), or (24).

[Translation done.]